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Polyacrylamide (PAM) is a flocculant that is added to irrigation water so as to reduce erosion by 94 % and increase irrigation water uptake by 15 % in loam soils. We have used the scanning transmission x-ray microscope (STXM) to visualize the flocculation of a KGa-1 kaolinite clay suspension at various concentrations of polyacrylamide. The results are in good agreement with the concentrations needed for field applications. X-Ray microscopy provides a very direct way of visualizing the effects of the flocculant. Figure 1 shows aggregate structures in a hydrated environment for different concentrations of polyacrylamide. The structures become more and more dense for increasing PAM concentration. \*This work was supported by a fellowship from German Academic Exchange Service (DAAD) and by the Office of Biological and Environmental Research, U.S. DoE under contract DE-FG02-89ER60858. We would like to thank Sue Wirick for her support at the beamline.

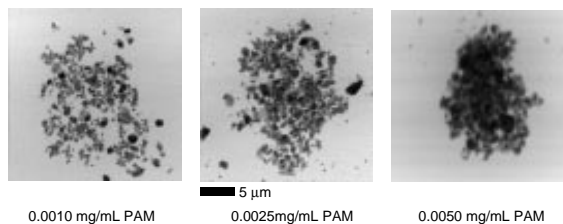


Figure 1. Fully hydrated aggregates consisting of 2 - 0.2  $\mu\text{m}$  kaolinite clay particles and different concentrations of polyacrylamide (PAM), an organic flocculant, suspended in an aqueous solution of 0.01 M  $\text{CaCl}_2$  (The kaolinite is the Clay Minerals Society Source clay KGa-1, clay content is 10 mg/mL).